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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,153	02/14/2001	Hideki Torikoshi	016887/1031	8335

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FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 04/02/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/782,153

Applicant(s)

TORIKOSHI ET AL.

Examiner

Cicely Ware

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. Pg. 1, line 20-21, applicant uses the phrase "when a time signal is added when". Examiner suggests using "a time signal is added" for clarification purposes.
 - b. Pg. 1, line 27, applicant uses the phrase "a transmission system that account for". Examiner suggests using "a transmission system that accounts for" for clarification purposes.
 - c. Pg. 1, lines 31-32, applicant uses the phrase "continuity of time because if the time". Examiner suggest using "continuity of time because of the time" for clarification purposes.
 - d. Pg. 8, line 18, examiner suggests applicant delete the period and comma after "time".

Appropriate correction is required.

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by
Read et al. (US Patent 6,236,623).

(1) With regard to claim 1, Read et al. discloses in (Fig. 1) a system and method of synchronizing clocks in a plurality of devices comprising: a GPS receiver (76) for receiving a time signal from a Global Positioning System, and outputting a UTC synchronization reference pulse signal (82) synchronizing with UTC and a UTC synchronization absolute time signal (80) composes of a serial signal representing an absolute time; and a time signal distributor (84) for generating a reference time signal by synthesizing the UTC synchronization reference signal and the UTC synchronization absolute time signal, and transmits this reference time signal in distribution to a plurality of distributed control oriented terminal devices (14) (col. 2, lines 63-67, col. 8, lines 49-52, Fig. 7 (84), col. 9, lines 1-11, 17-20).

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Read et al. further discloses in (Fig. 1) wherein said time signal distributor (12) synchronizes a rising edge of the UTC synchronization reference signal with UTC, and transmits the time synchronization signal to each of said terminal devices with a fixed period (col. 7, lines 10-16, col. 9, lines 1-11).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Read et al. (US Patent 6,236,623) as applied to claim 1, in view of Dietrich (US Patent 6,199,170).

(1) With regard to claim 3, claim 3 inherits all the limitations of claim 1. However Read et al. does not disclose wherein said terminal device includes a reference clock operating in synchronization with the rising edge of the UTC synchronization reference signal, for generating a time signal representing a time of the finer order than a minimum time unit that is processed in the UTC synchronization absolute time signal, and internal clock correction means for comparing an internal time value based on said reference clock with an external time value synchronizing with the UTC synchronization reference signal, and correcting said reference clock so that the time of said reference clock synchronizes with the UTC synchronization reference signal.

However Dietrich discloses a method and apparatus for time synchronization wherein a terminal device includes a reference clock operating in synchronization with the rising edge of the UTC synchronization reference signal, for generating a time signal representing a time of the finer order than a minimum time unit that is processed in the UTC synchronization absolute time signal, and internal clock correction means for

comparing an internal time value based on said reference clock with an external time value synchronizing with the UTC synchronization reference signal, and correcting said reference clock so that the time of said reference clock synchronizes with the UTC synchronization reference signal (col. 1, lines 10-26, col. 2, lines 30-35).

Therefore it would have been obvious to one of ordinary skill in the art to modify Read et al. to incorporate a terminal device including a reference clock operating in synchronization with the rising edge of the UTC synchronization reference signal, for generating a time signal representing a time of the finer order than a minimum time unit that is processed in the UTC synchronization absolute time signal, and internal clock correction means for comparing an internal time value based on said reference clock with an external time value synchronizing with the UTC synchronization reference signal, and correcting said reference clock so that the time of said reference clock synchronizes with the UTC synchronization reference signal to reduce or eliminate the delays that last for unknown lengths of time and determine an error bound for the synchronization signal received from the reference clock (Dietrich col. 1, lines 56-59).

(2) With regard to claim 4, claim 4 inherits all the limitations of claim 3. Read et al. further discloses wherein said internal clock correction means includes means for changing a unit delimiting width of the correction, corresponding to a magnitude of a time difference (col. 7, lines 11-46).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Read et al. (US Patent 6,236,623) as applied to claim 1, in view of Ozcetin et al. (US Patent 6,611,922).

With regard to claim 7, claim 7 inherits all the limitations of claim 1. However Read et al. does not disclose wherein each of the terminal devices includes an internal clock and, if unable to receive the reference time signal from said time signal distributor, continues a time signal process by use of the internal clock.

However Ozcetin et al. discloses a power system time synchronization device wherein each of the terminal devices includes an internal clock and, if unable to receive the reference time signal from said time signal distributor, continues a time signal process by use of the internal clock (col. 2, lines 22-25, 35-37, 59-66).

Therefore it would have been obvious to one of ordinary skill in the art to modify Read et al. to incorporate wherein each of the terminal devices includes an internal clock and if unable to receive the reference time signal from said time signal distributor, continues a time signal process by use of the internal clock to provide for an accurate sequence of fault recording and periodically synchronize internal clock times of monitors to a universal time of line frequency without causing discontinuities and drift (Ozcetin et al. col. 3, lines 22-28).

Allowable Subject Matter

8. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

a. Eidson et al. US Patent 6,654,356 discloses a distributed control system architecture based on synchronized clocks.

b. Najafi US Patent 6,625,209 discloses a short synchronization time data modem.

c. DeWulf US Patent 6683867 discloses a parallel precise time transfer to multiple GPS units.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
March 25, 2004



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600